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PSYCHIATRY

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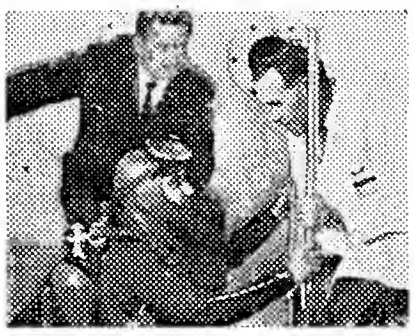

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Guest Editorial

VIVIAN MORRIS RAKOFF was born in Capetown, South Africa in 1928 and received his B.A. (1947), M.A. (1949), both with high distinction, from the U. of Capetown in 1957. He received his M.B. B.S. from U. of London and became M.R.C.S., L.R.C.P.(E) and by 1964 had obtained a Diploma in Psychological Medicine, with distinction, from McGill University and his C.R.C.P.(C), F.R.C.P.(C). His wide and interesting experience in psychology and psychiatry includes being a Demonstrator in Dept. of Psychology (U. of Capetown, 1949), serving as Psychiatric resident (at Groote Schur Hospital — Capetown, 1959-61; in McGill Diploma Course in Psychiatry, 1961-1963), acting as Director of Research, Dept. of Psychiatry, Jewish Gen. Hosp. (Montreal) and currently Dr. Rakoff is Professor and Director of Postgraduate Education, Dept. of Psychiatry at the U. of T. His research interests have ranged from family dynamics, to alcoholism, to the psychological aspects of obesity. Besides his exceptional depth of educational and research experience, Dr. Rakoff has presented many radio talks on the C.B.C. on various themes and always continuing to maintain an active interest in literature and the general arts, has had several pieces of poetry published and in 1968 on the C.B.C., had his play, "Nonquasi" performed.

Psychiatry In Medicine

Dr. Henry Miller, the eminent British neurologist, has recently made many assertions that contemporary psychiatry should confine itself to the strictly "medical" aspects of "mental disease" and that it should leave the mental or psychological domain to others. By a quick extrapolation of his ideas it becomes clear that if the psychiatrist fails to settle for some fairly rigid definitions of the "medical", he should give up the essentially fraudulent designation of doctor (medicus). From the other side of the mental health field there is a similar pressure. Non-medical professionals for reasons (like most human reasons) which are a mixture of rationalisation, self-interest and objective argument, feel that the psychiatrist should keep his expertise for physical acts directed at the patient: drugs, electrical therapies – and perhaps even surgery, and that he should leave the world of re-learning, psychological assuagement, characterological re-structuring (if it were possible) to people who have more time and/or essentially psychological skills.

Both these sources of critical advice – the hard-nosed medical and the social psychological appear to be making their statements from a similar conception of "the medical", which can be crudely summarized as the rational manipulation of the patient's soma. It is concerned with the manipulation of anatomy, either as gross structure; hands, livers, hearts, or at the molecular level – drug therapies and biochemical intervention. Scientists and thinkers who would laugh at a mind body dicotomy, in fact appear to be operating within its most naive assumptions.

Such a reduction of the medical model is a fairly recent one. In the Western world at least, the physician has been seen, as someone who will use all the available technology of a given time to allay individual suffering without moral judgement of the sufferer. This is a fairly condensed statement of the role, but it implies that when the only drugs available to the physician were painkillers and aperients, he would use them, and if all he had was a sombre voice and jumble Latin, he would use them. And if of late he has at his disposal x-rays, atomic devices, learning theory, and a rational biochemistry – then by the same token he will use all these techniques.

To accept only soma or psyche as his province would box the physician psychiatrist into one of the two primitive precursor identities of medicine: magician priest or barber-surgeon. It is rather strange that we should once again be in the situation of having to assert that the relief of suffering is both a mental and a physical act. By itself such a statement may be interpreted as vapid polemic, but there are very specific instances which give point to the argument. Until the discovery that general paresis of the insane was related to tertiary syphilis, it could have been assumed that it was a purely psychological disorder of learning or adjustment, and therefore that the care of patients suffering from it would appropriately have been an act of charity, or (if the discipline had existed) the concern of psychiatric social workers. And today when the entire question of the aetiology and therapy of schizophrenia, is a centre of both research and debate, it would be foolish to pre-judge the issues by disposing of the patients into arbitrary boxes of professional concern, since somatic, genetic and psychological factors are probably all of crucial importance.

Both G.P.I. and schizophrenia illustrate the necessity for a discipline which expresses the continuity if not the identity of somatic and psychic suffering and hence of therapy. If this is an accepted model then the range of available therapies is wider, and the intellectual recognition of the many factors involved, will have been anticipated by a broad education in the necessary contributory fields. Heuristically too, research plans and hunches are grounded in schemata of reference, which are generally supplied by the initial education. Hence the education of the psychiatrist should anticipate the province of its future concerns in their broadest ramifications.

Medicine has never been a science in and of itself. It has always been the finally common pathway of many disciplines. Paradoxically the scope of psychiatry may in fact mean that it is the psychiatrist, who is closer to the perennial model of the healer, than the more narrowly defined specialists who have opted for a more confined identity and who question the right of psychiatry to be within the mainstream of medicine.

Much psychiatry does seem to have very little to do with the model of medicine we (perhaps of necessity) have to purvey in the medical schools. But then so does much of the symptomatology, and the human problems which present in the general practitioner's or the internist's, and indeed in the surgeon's office. The inconvenient whole man will persist in accompanying his symptoms. He will not leave his memory, personality, and genealogy outside. Most patients present in a messy way. And if one is not attuned to a range of human possibilities there is a great likelihood that no therapeutic order will be made out of his chaos.

The point of this brief statement is not to suggest that only psychiatrists appreciate the wholeness of the patient, or that only the psychiatrist understands and can do psychotherapy. This is obviously not so. Many general physicians, psychologists and social workers are adept psychotherapists. But the psychiatrist — at least in today's medical structure — is the one professional trained as "behavioural scientist medical specialist" — a necessary physician.

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Should medicine ever fulfill its great ends, it must enter into the larger political and social life of our time; it must indicate the barriers which obstruct the normal completion of the life cycles, and remove them. Should this ever come to pass, Medicine, whatever it may then be, will become the common good of all. It will cease to be medicine, and it will be absorbed into that general body of knowledge that is identifiable with power.

—RUDOLPH VIRCHOW
1821-1902

The stumbling way in which even the ablest of scientists in every generation has to fight thru thickets of erroneous observations, misleading generalizations, inadequate formulations and unconscious prejudice, is rarely appreciated by those who obtain their scientific knowledge from text books.

—JAMES BRYANT CONANT
1893-

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- ☐ Bioavailability in Drug Therapy, M. Pernarowski, Canadian Pharmaceutical Association Journal, February 1971.
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Psychiatry and General Practice

Larry Hancock, 7T3

ABSTRACT

The vast prevalence of emotional illness in Western society has been well defined in recent years. The general practitioner as the primary care physician bears the burden of this disease entity from initial diagnosis to the very common chronic care state which evolves. Yet, studies have shown a remarkable incidence of ignorance about the diagnosis and management of mental illness and indeed many family physicians feel inadequate and embarrassed when dealing with it.

The preparation of the general practitioner for this problem must begin on first entering medical school, continue through clinical studies and afterwards in practice.

INTRODUCTION

"The moisture of our air, the variableness of our weather, the rankness and fertility of our soil, the richness and heaviness of our food, the wealth and abundance of the inhabitants, the inactivity and sedentary occupations of the better sort (among whom this evil mostly rages) and the humour of living in great, populous, and consequently unhealthy towns, have brought forth a class and set of distempers with atrocious and frightful symptoms, scarce known to our ancestors, and never rising to such fatal heights, nor afflicting such numbers in any other nation. These nervous disorders being computed to make almost one third of the complaints of the people of condition in England."

G. Cheyne, 1733

Emotional illness has long been recognized as a major problem but only in the last 15-20 years have definitive studies come forth with reasonably accurate and reproducible statistics. Surveys in England, the United States and Canada involving large cross-sections of rural and urban society have pointed to a vast prevalence of psychiatric morbidity. Medicine, with its increased emphasis on early detection of disease, increased use of preventive measures, etc., has evolved into a largely chronic care type of pattern. Psychiatric disease plays an increasing role as this trend continues.

This article, then, aims at presenting the importance of psychiatric skills in a general practice setting and suggests that a re-alignment of medical education may be required to further these aims.

PREVALENCE

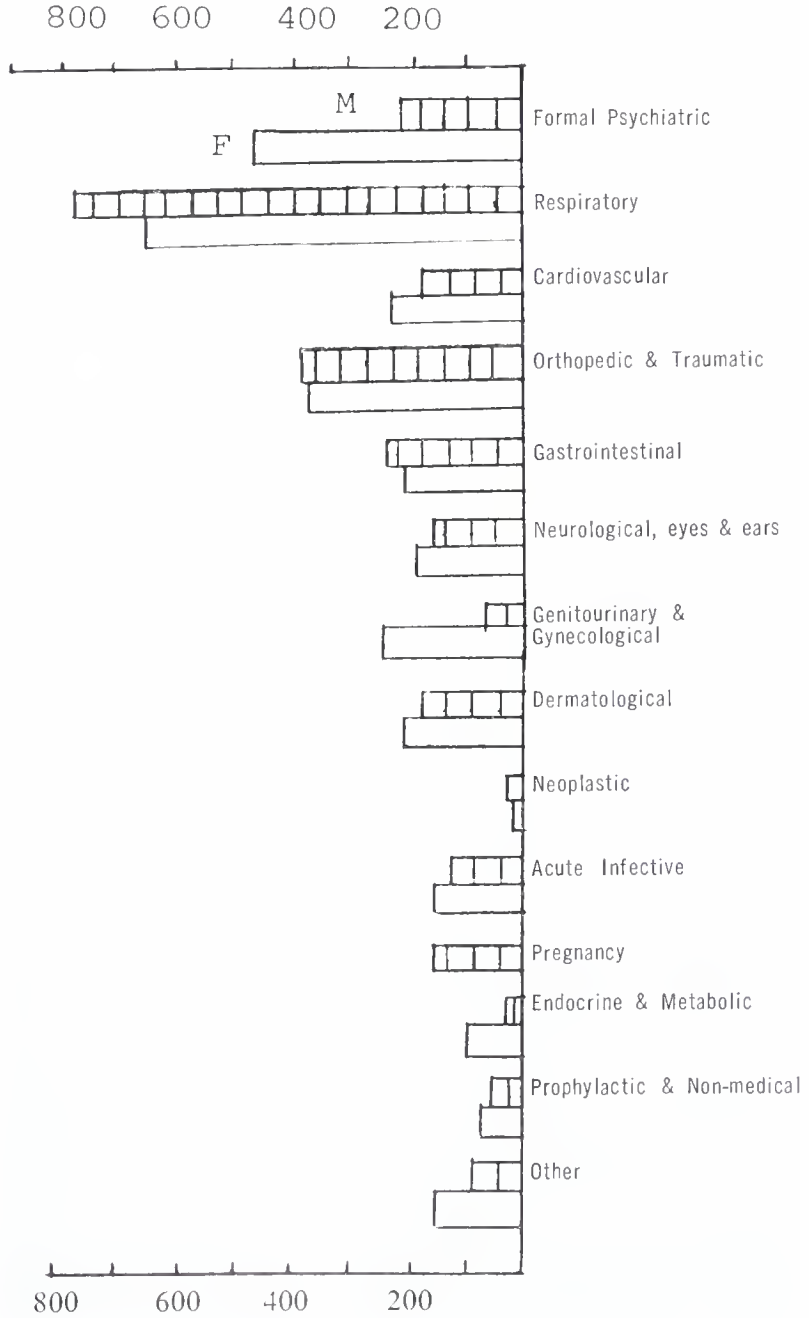
What exactly is the prevalence of emotional disorders in our society? Studies to define this are beset with difficulties such as sampling procedure, diagnostic classification, uniform recording and technique of analysis, to mention a few. However, several excellent research projects have been completed and the facts are summarized below.

The Stirling County Study under Leighton[1] in Nova Scotia covered a mixed urban and rural population and concluded that 20% of the population studied had impaired function as a result of emotional illness while greater than 80% were suffering to some degree from such disturbance.

The Midtown Manhattan Study in New York City under Scrole, *et al*[2], involved a totally urban community of mixed socio-economic background. Their conclusions were much like those of the Nova Scotia study in that 23% of the population were felt to be functionally impaired while greater than 80% were suffering mental illness of some nature.

Similar studies in Baltimore, New Jersey and London reveal an incidence in the general population of 6-40% of primary uncomplicated psychiatric disease with no organic pathology present. Shepherd, *et al*[3], published the chart shown in Fig. 1 from a survey of forty-six busy general practices in London. The perspective is very interesting from more than the psychiatric viewpoint.

Fig. 1. Consultation Rates Per 1,000 At Risk[3]



What is the distribution of these disorders on a diagnostic basis? Given all the inadequacies of psychiatric diagnosis, Shepherd has charted the results of his series against hospital out-patient and in-patient records (Table 1). These figures refer to patients with "formal psychiatric diagnosis" only.

TABLE 1[3]

Category	Present Survey	Maudsley Hospital Out-Patients	Mental Hospital First Admissions England & Wales 1957
	%	%	%
Psychoses	4.2	24.5	72.3
Neuroses	63.4	43.6	18.1
Character Disorders	3.9	23.3	5.0
Miscellaneous	28.5	8.9	4.6
Total	100.0	100.0	100.0
Total Cases	2,049	6,752	48,266

In summary, multiple studies have shown that the family physician, as the first line of patient care, will see about one person in five with a primary psychiatric problem and no organic disease whatsoever. Furthermore, perhaps four out of five of his patients will demonstrate emotional disturbance amenable to diagnosis and treatment.

DIAGNOSIS

Obviously this data has tremendous significance for the student of medicine, either undergraduate or postgraduate.

First is the ability to diagnose these disorders. Knowledge of salient positive and negative points in the history, the physical and the ancillary investigations is essential. Perhaps most important though, is the recognition of the existence and prevalence of the disease and active steps to rule the diagnosis in or out. It is not a diagnosis of exclusion in most cases. What types of diagnosis are there? One is the W.H.O. "International Classification of Disease". Another is the A.M.A. "Diagnostic Classification of Psychiatric Disease". These formulations provide an objective framework for the general practitioner. Probably 100% of the population would fit into one category or another of personality disorder or neurosis. The system remains, however, useful as an intellectual framework to "hang your hat on".

More is clearly necessary before firm diagnosis and management with all their ramifications are undertaken. What is the patient's functional level? Is he coping adequately with his job, his friends and his family? Further, what is his socio-cultural and economic milieu and how does he relate to it in the broadest sense? Finally, what is the patient's opinion? Does he feel himself to be coping poorly, or to be mentally ill? Is he happy with himself? The family practitioner is in the unique position of being able to answer most of these questions through his intimate knowledge of the patient and his family over prolonged periods of time. It is the sum of the answers to questions like these plus the A.M.A. and W.H.O. classifications which determine his decision with regard to diagnosis and treatment.

Second, the family physician must be aware of the positive clues to emotional disturbance and how these present themselves. The elderly tend to present with various physical ailments including headache, indigestion, backache, palpitations, "heart pain" and change in bowel habits while the younger patients more often complain of insomnia, nervousness, depression, anxiety, phobias, etc. Women present twice as often as men with emotional disorders and their families are seen more often for various physical and mental complaints. Various times of life-stress can be relied upon to produce emotional disturbance and these reactions should be anticipated. These include marriage, pregnancy, hospitalizations, school entrance, puberty, divorce, senescence, etc. There are many other interesting trends which could be enumerated, however these would not solve the physician's problems with respect to searching out the mental disturbance. What is important is his ability to individualize his approach to each patient, bearing in mind the possibilities of symptomatology in each period of life. The emotionally disturbed patient may present with a bewildering array of symptoms or with very few symptoms at all. The general practitioner must judiciously search out the possibilities and perform ancillary investigations as required for each patient. Mental illness is a multifactorial entity and all aspects must be explored in order to make an accurate assessment and to provide the appropriate management.

MANAGEMENT

The family doctor, after arriving at his diagnosis of emotional disorder must consider management. Again, the important dictum is to tailor the treatment to the individual. There can be no "routine" pharmacological agents, no glib reassurances and no quick referrals. Techniques available may be summarized as follows:

I *Personal Interaction* — education, reassurance, "the good listener", guidance, psychotherapy

II *Pharmacological* — psychic agents, placebo, symptomatic (Maalox, ASA, etc.)

III *Investigational* — "therapeutic" X-Ray, ECG, EEG, and physical examination

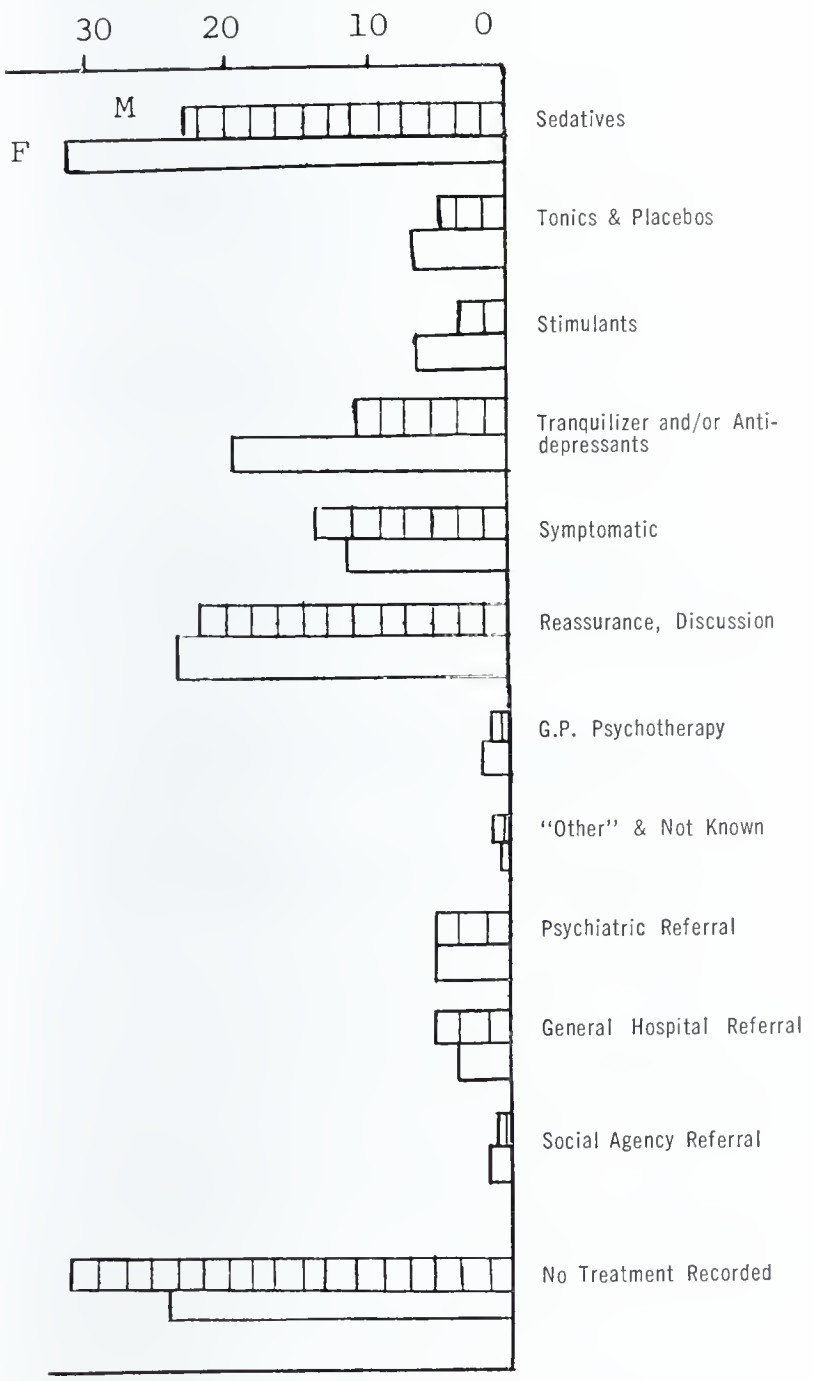
IV *Referral* — psychiatric, social service.

The physician must be able to skillfully use these tools to his advantage. What weight do general practitioners attach to each of these techniques? Again, Shepherd[3] has published an interesting summary (Fig. 2).

Clearly, personal interaction and drugs of all sorts are regarded as the main armamentarium and there is much overlap in the usage of these techniques. Other points

of note include the low percentage of cases requiring referral, illustrating again the large case load borne mainly by the primary care physician. More startling however, is Shepherd's conclusion that "in the majority of referral cases, referral for various reasons did not exercise any effect and the load fell back to the G.P." Perhaps most significant to note however, is the large number of cases recognized but which received no record of treatment. Was the doctor really doing nothing? Was he so unsure of himself and his techniques that he couldn't record them? Was he unaware of the therapeutic aspects of discussion, reassurance, etc.? These questions raise the whole spectre of general practitioners' attitudes towards mental illness and it's treatment.

Fig. 2. Percentage of Psychiatric Cases[3]



PHYSICIANS ATTITUDES

Does the current family physician have the expertise to manage such patients? The doctors involved in Shepherd's study repeatedly stated their insecurity and frequent embarrassment in dealing with emotional disorders. Naturally then, they felt their therapies were haphazard and inadequate. They felt ill trained and insecure in the entire field. In the United States at the Boston State Hospital, Becker[4] has long noticed these trends but finds 90 per cent of physicians invited to his and other training programs fail to participate while the majority express keen interest in further education. Most are adverse to sloughing their patients elsewhere by referral or neglect. They felt their personal acquaintance with the patient and his family and their ability to provide ongoing care were far better than brief psychiatric referral for the majority of cases. With this background a discussion of medical education both initial and ongoing is in order.

MEDICAL EDUCATION

Beginning with the first clinical studies and early patient contact, little emphasis is placed on the emotional overlay involved in major illness. The patient is regarded as secondary to his signs and symptoms and intellectual objectivity is fostered in the student. The game of clinical "one-upmanship" is begun. While this is probably not a bad technique in terms of trying to diagnose and treat illness, clearly something is missing from the patient's point of view — something that could easily be taught at the bedside when the patient is at the height of emotional turmoil. Neither are common functional complaints dealt with in terms of guidelines of differential diagnosis and management. Irritable colon and aerophagia wait for the unwary student when he opens his office! Awareness of these common entities should begin early. The responsibility here lies with the clinical instructors who must attempt to give the student wider perspective on the importance and prevalence of the disease entities that they discuss.

Later in medical school formal psychiatric education is begun. Emphasis again is on the relatively dramatic and uncommon entities which require admission to hospital such as schizophrenia, conversion reactions, etc. These patients fit well into an intellectual framework and are readily discussed to excessive lengths. Little attention is paid to the poor soul who develops a clinically recognizable neurosis or falls into a minor reactive depression. No attempt is made to help the student to assess the physical and emotional signs so frequently combined in these individuals. Worse still the role of the family physician in managing these people is almost ignored. Training in crisis intervention, education and therapeutics for such patients is non-existent while the student is well aware of the usefulness of lithium in the management of the manic. There seems to be a sad lack of training in common psychiatry even from psychiatrists.

Necessity deems it time to reassess psychiatric education in medical schools. First, as in medical subjects, proper perspective is essential. Mention of illness prevalence must be made so that the student may know what faces him and how to guide his studies. Proper differen-

tial diagnosis of illness, emotional, mental, and physical, as well as a useful technique of assessment of all the facets of a patient's presenting symptoms should be taught routinely. The psychiatrists are as guilty as the medical specialists in separating emotional and physical disorders while the family physician remains in the middle, well aware of the relationships, but untrained as to how to deal with them, and often unaware of them until he opens his practice. As a result, gross variability in patient management exists. In summary, all divisions of medical education should attempt to train the student for the illnesses which face him and give him a framework for assessment and management of the problems he will face. Often these simple concepts seem to be lacking.

The family physician needs continuing experience and training in emotional disorders if he is to remain comfortable with their management. Yet we have learned that in the majority of instances he has neither training nor confidence sufficient to satisfy his standards in this area of medicine. Thirty percent of the cases he diagnoses have no treatment recorded while less than ten percent are sent elsewhere for assessment. At the same time he admits to feeling uncomfortable and embarrassed about mental illness. Are retraining courses the answer? As mentioned above, in the Eastern United States, Becker[4] finds that 90% of the physicians invited to teaching sessions fail to attend. Were they too busy? Did they remember how relevant their past education had been to their practices? To gain his experience and confidence he must handle his own patients. In Saskatchewan, McKerracher, *et al*[5], allowed family doctors to admit and manage their own psychiatric patients. Once weekly teaching rounds were held and consultations with staff psychiatrists were freely available. He found that patients and general practitioners enjoyed this arrangement much more than the referral system. The physicians gained dexterity managing all types of emotional illness. In contrast to Becker's findings, 90% of family physicians invited to participate did so willingly, and in fact, became involved in teaching medical students. This system involves many advantages in terms of patient acceptance, length of stay in hospital, decreased delays in consultation, decreased demands on specialized psychiatric service and broader education of medical students.

In summary, the problem of mental illness from the general practitioner's point of view has been stated. Its extent and character have been defined while some of the difficulties in diagnosis and management have been discussed. In summation, some suggestions are made to improve the situation. Obviously such an exposé has many debatable points but several basic facts are certain.

I The prevalence of emotional illness in western society is awesome. Possibly 80% of the population are suffering from some form of clinically recognizable disorder.

II General practitioners carry up to 90% of this case load.

III The physicians themselves feel their management is highly variable and often unsatisfactory.

IV Little is being done in medical schools to better prepare the student for the problems he will face in a general practice setting.

To elicit an awareness of the problem followed by constructive discussion is the most important objective of this presentation.

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Brian Butler, B.A., 7T3

Essential Hypertension: A Psychosomatic Model

INTRODUCTION

Articles concerning hypertension consistently refer to unknown or poorly understood psychological factors in its genesis. Although reference is made to the value of psychotherapy and a good patient-physician relationship in the treatment of hypertension, there have only been vague suggestions that hypertensives tend to be obsessive, driving individuals. A search of the literature reveals what is known about the psychosomatic relationship in hypertension.

WHAT IS HYPERTENSION – WHAT IS ITS EFFECT?

Hypertension is an increase in blood pressure (BP) greater than 140/90 mm. Hg. The increase in the diastolic pressure, due to an increase in vascular resistance, is the real determining value in the diagnosis. This is a simple definition however, for the purposes of this article it is defined according to the following:

1) An increase in BP above 140/90 mm. Hg.

2) The BP determination is made under as non-stressful conditions as possible.

3) The rise in BP is not labile, but sustained.

Two distinct types of hypertension are recognized – those which are organic and the pathology is clearly demonstrable, and those cases defined as 'essential' where the cause is not determinable. Therefore, another criterion of the hypertensive state may be added:

4) There must be no known organic cause to explain the hypertension (i.e. essential hypertensives).

Sustained hypertension from whatever cause produces secondary changes in many organ systems. The patients may first present medically with signs and symptoms of these changes; or they may have signs but not symptoms and are picked up on routine examination. They complain of pounding occipital headache which worsens on walking, or, weakness, palpitations, and nervousness. They seek medical assistance for intermittent hematuria, visual changes or angina. Occasionally they are recognized only after death secondary to a myocardial infarct or hypertensive encephalopathy. Other complications are cerebral hemorrhage, renal failure, congestive heart failure, and coronary artery occlusion.

Of the patients presenting with hypertension 95% are diagnosed as essential hypertensives. It is important to consider the 'psychology' of essential hypertension and its role in the pathogenesis. Various factors that have been studied experimentally and found to be relevant will be discussed.

AGE

The kinds of psychological stresses that any individual faces, such as the environment he lives in and the people with whom he interacts, change with his age. It becomes obvious then, for both physiological and psychological reasons, that it is important to determine if there is any age group that is more 'susceptible' to essential hypertension and to discover possible explanations for the lack of its appearance in other age groups.

A number of studies have shown a consistent rise in both systolic and diastolic BP, in both males and females, with increasing age. Kagan found a mean BP in 30-34-year-old males of 130/80 rising to 148/87 mm. Hg. in 60-64-year-old males[1]. But we still do not know whether the rise in BP from 130/80 to 148/87 is associated with the same factors as a rise from 135/85 to 153/92 or whether those who become hypertensive (140/70) are a pathophysiologically distinct group.

Perera found that in a group of hypertensives, the average age of onset was 32 years and that it rarely began after the age of 50[2]. Some studies have suggested that young people, under 25, who are noted to have an intermittent rise in BP greater than 140/90, have an increased chance of developing hypertension in later life. It is thought that this occasional rise may result in vascular changes which are ultimately the source of the sustained hypertension. Perhaps we should consider factors which raise BP for a short time and discover whether these 'factors' were present in our hypertensive group at an earlier age.

HEREDITY

Genetic studies tend only to deal with what can be seen or quantitated and have in the past ignored any consideration of 'psychological inheritance'. As difficult as it is to separate heredity from environment as causative agents in personality development, it is important to at least consider possible inherited mechanisms of action and reaction in relation to the onset of hypertension.

To suggest 'psychological inheritance', it is first necessary to document physiological differences and then to speculate on the relationship of the observed physiology and the associated psychology. In one study Norwegian rats were exposed daily to the sound of an airblast[3]. Some of these rats developed sustained hypertension. Those rats which did so were found to be 'emotional rats' as determined by defecation rate in a strange environment. But when a similar experiment was done with Glaxo albino rats, no induction of hypertension occurred. There appeared then to be a physiological inheritance which correlated with emotion.

It was found experimentally that hypertensives given 5-hydroxytryptamine, noradrenaline and angiotensin, had a significantly greater fall in resting forearm blood flow than normotensives matched for age, sex and arm size[4]. Similar significant differences were noted in the offspring of hypertensives. This decrease in flow produced by angiotensin and methyl isothiourea seems to be a fault of the vessels themselves, rather than subsequent alteration in chemical metabolism.

Many studies of families and twins have found a significant disposition toward hypertension among relatives of a diagnosed hypertensive and the recurrence of hypertension in subsequent generations. It is argued both that heredity determines a 'susceptibility' to the environmental stimuli which produce hypertension and that heredity itself is the determinant in the pathogenesis. The ideal subjects to test these opposing hypotheses would be monozygote twins although the numbers available for such a study are small. Some studies have shown that hypertension developed in the more emotionally disturbed twin. The experimenters hypothesized that although both twins had a similar tendency (through inheritance) to hypertensive autonomic reaction, the 'weaker' member had been frustrated in his attempts at reaching goals and was thus subject to continued emotional disturbance relative to the 'stronger'.

SEX

The differences between male and female are determined by the presence or absence of the X and Y chromosome. The expression of these chromosomes is influenced by chemical (exogenous hormones, drugs) physical (radiation, surgery) and environmental (social, psychological) factors. It is therefore useful to ask if there is any difference in the occurrence or progression of hypertension in the sexes and if so, if it is associated with any of the above factors.

It has been found that although two-thirds of hypertensives in most studies are women, there is no sex difference in the average age of death (51). However, there is a difference in mortality and morbidity. Males have a poorer prognosis and a higher incidence of more severe forms of hypertensive disease. Explanations for this include some interesting 'psychological' observations. Males tend to present later and in a more severe form of the disease. Males have a higher incidence of coronary artery disease, although women have a greater probability of developing cerebral complications.

A study of sex difference in twins showed that environmental factors are greater determinants of BP levels in the male than in the female. The experiment showed that the mean monozygotic variance of BP for males was significantly greater, for both systolic and diatolic pressures than for females. What factors should be considered to explain this environment-related sex difference? Perhaps a man's body image of virility and health is the reason for delayed medical attention; or, maybe job security and family income account for the delay. Why, too, should coronary artery disease be a feature of male hypertensive disease and not female? The image of the 'hardworking successful professional' who suffers a fatal infarct at 51 does not incorporate a dress!

PERSONALITY TRAITS OF HYPERTENSIVES

The hypertensive hardworking businessman is indeed a stereotype. A number of studies have been done in an attempt to relate the essence of the hypertensive personality to physiology. These experiments have led to the hypothesis that the same external stimulus is dealt with in a different manner by hypertensives than by normotensives. This difference is manifest physically as an increase in BP and psychologically by certain personality traits. What then are the external stimuli and personality traits associated with an increased BP?

Schacter found that pain, anger and fear produced a greater rise in BP in hypertensives than in a control group[5]. Another study suggested that with mental arithmetic as the stimulus, hypertensives showed a greater reduction of renal blood flow and a more prolonged effect than the control.

Some comprehensive studies using dream analysis, direct questioning, psychological testing and discussion suggested that hypertensives are easy-going outwardly but tense and suspicious inwardly[6]. They were found to be non-reflective, and people of action. Those who showed no external response to stress and yet had an increased BP also had increased peripheral resistance. However, no rise in BP was noted in interview situations unless they were coerced or threatened. Wolf reinforced the above observations in his own study and concluded that essential hypertensives might be those whose peripheral resistance rose with no change in cardiac output. This was associated with restrained anxiety or hostility. These studies are open to criticism on the ground that they were too selective in their patient group. These hypertensives tended to be hospitalized patients or psychoneurotics whose emotional lability may have produced the observed changes. The question can then be rephrased. Are hypertensives actually psychoneurotics whose neurotic characteristic (rise in BP) is psychophysiological; or, do they cross psychiatric diagnostic boundaries and share only the same physiological response and no other?

A study by Dunbar formulated the following subjective opinion of hypertensive individuals:

> They showed a desire to please, combined with chronic rebellion, were ambitious but afraid of failure, and were afraid to show anger because they wanted to be liked[7].

But many other studies suggest this impression of the non-hypertensive psychoneurotic! One study by Binger

suggested that hypertensives *do* have a 'neurotic disorder of personality' and that it stems from inhibited emotions[8]. But if we use the presence of 'neurotic symptoms' — headache, insomnia, anorexia, dizziness and weakness as objective evidence of a neurotic disorder this statement is not supported. These symptoms are found significantly more frequently in those patients who know that they have hypertension than in those who do not and the presence of these somatic complaints has no relation to the level of the BP. The author's contention is that those personality factors which suggest a neurotic personality may in fact be iatrogenic in origin and not casually related to the hypertension.

One other study disagrees with the coexistence of hypertension and a personality disorder. The experiment divided a group of patients matched for age, sex, colour, education and culture into three groups: (1) hypertensives; (2) personality disorders, and (3) chronic medical and surgical patients[9]. All participants were rated subjectively by interview according to impulsiveness, subnormal assertiveness, obsessive - compulsive behaviour, depressive behaviour, anxiety and hysteria. Hypertensives were higher than the group with personality disorders on two scales – subnormal assertiveness, and obsessive-compulsive behaviour; and higher than medical and surgical patients on all scales except impulsiveness.

A study of healthy male factory workers between the ages of 45 and 54 and employed for a ten-year period with the same company undertaken to correlate BP with a number of psychological variables[10]. Numerous readings were taken to ensure that basal values were obtained. These readings were then checked against retinal arteriolar thickening. Those with raised BP complained of fewer functional symptoms, produced lower scores on the neuroticism scale of the Eysenck Personality Inventory, gave less frequently a history of neurotic traits in childhood and denied being prone to anxiety and depression.

It appears that experimental evidence suggest opposing views of the hypertensive: He is both neurotic and non-neurotic. What could account for these results? There is one study which attempts to resolve the unresolvable. BP readings taken by the individual himself, i.e. 'usual basal values', were found to correlate negatively with a history of parental strictness whereas a measure of BP lability correlated positively[11]. Similar correlation was found with other variables. It could be that artificial environments during BP readings produced elevated BP in emotionally labile people, thus producing a neurotic correlation, whereas, there is no correlation of neurosis with sustained hypertension.

An investigation of hospitalized psychotics showed that the highest blood pressures were recorded in patients manifesting strong hostile emotions either directed outwardly as paranoid delusions or inwardly as depression[12]. They also found that ganglionic blocking agents and the disinhibiting agent sodium amytal both produced a decrease in this raised BP. The conclusion was that these hostile emotions were associated with labile hypertension. In another study both normotensives and hypertensives had a positive correlation between BP lability measured every one to two weeks for periods varying between four and twelve months and scores on hysteria, hypochondriasis and psychopathic deviation. Therefore it seems that many of the characteristics found in studies mentioned earlier may not in fact be those of the sustained hypertensive but actually traits of the emotionally unstable individual with labile hypertension.

EXPLANATORY MODELS

The 'classical' psychosomatic interpretation of hypertension can be stated as follows: Certain patterns of sensory stimulation product a rise in BP, the size and duration of which depend on the nature of the stimulus and the responsiveness of the individual. If repeated frequently the BP will remain elevated and reach the point diagnosed as essential hypertension.

Russian researchers modify that model as follows: Prolonged anxiety extinguished excitement in certain areas of the cerebral cortex. The inhibitory effects of the cortex on the autonomic centres of the hypothalamus are decreased. Hypertensives react more extremely than non-hypertensives and acquire conditioned vasoconstrictor responses to anxiety-producing stimuli. This explains both labile and sustained hypertension rather well.

It is important at this point to consider the relationship between sustained and labile hypertension. Some people feel that labile hypertension always precedes sustained but experimentation does not bear this out. We are left with inadequate experimental evidence for linking them in our model but enough evidence to 'wonder' about such a relationship.

Our review of the literature suggests the following:

1) Hypertension is a disease primarily of middle age.
2) Hypertensives seem to have blood vessels that are themselves different from those of normotensives.
3) Male hypertensives are subject to greater effect of the environment on BP levels, than females.
4) Hypertensives have an affable exterior, are ambitious and do not show anger.
5) Labile hypertensives, at least, seem to be more obsessive-compulsive, hysterical, and neurotic than normotensives.
6) There are hereditary factors coincident with the occurrence of hypertension.
7) The relationship bteween labile and sustained hypertension is unclear.

Our model then must adequately explain these observations. Sustained hypertension is the result of a number of factors:

1) The natural state and reactivity of the blood vessels is determined genetically.
2) Prolonged vasoconstriction leads to permanent vascular changes and sustained hypertension.

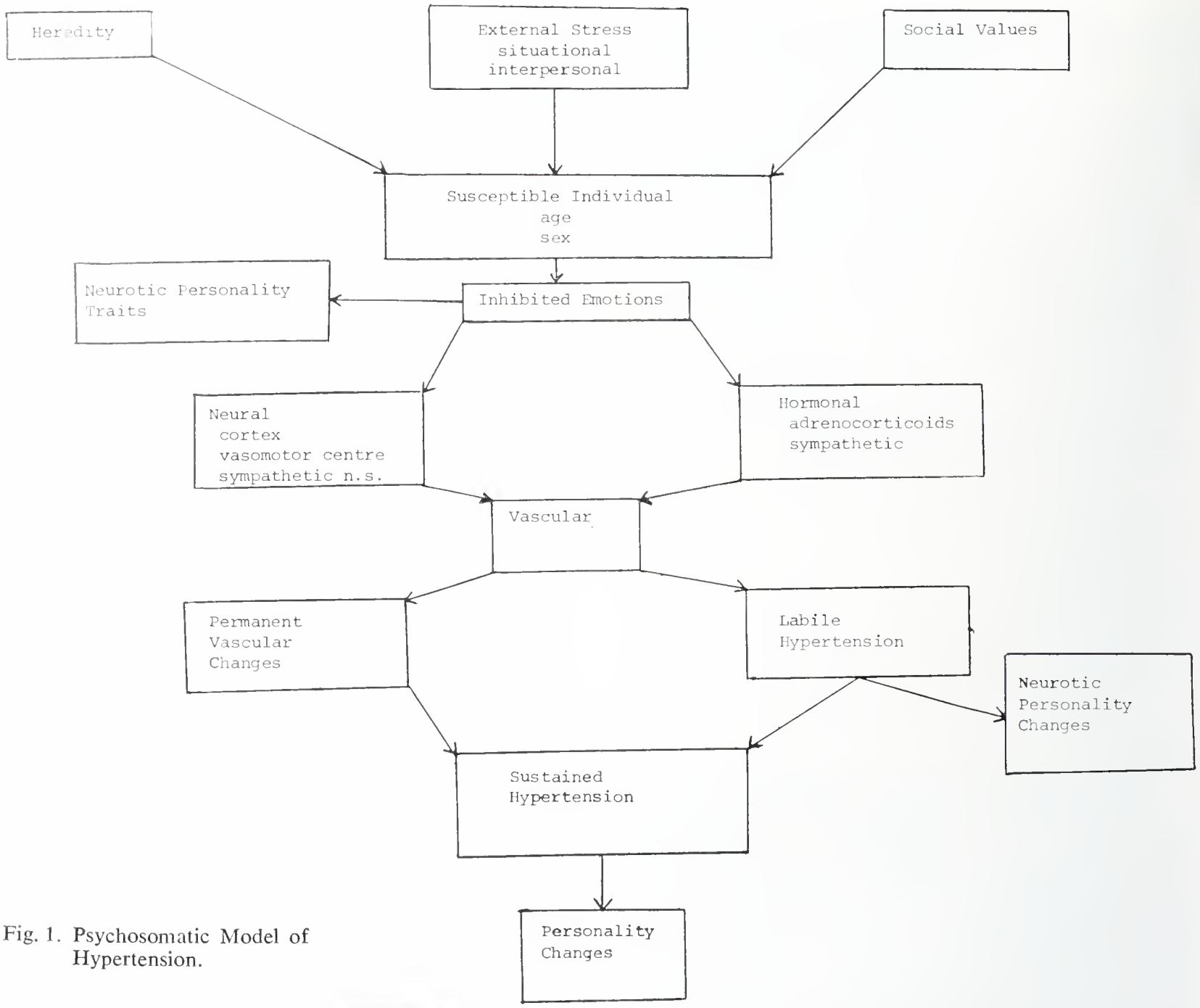

Fig. 1. Psychosomatic Model of Hypertension.

3) Labile hypertension follows the bombardment of a 'susceptible individual', as defined genetically, with external, emotion-provoking stimuli.

4) These individuals, however, suppress or repress these emotions which are then expressed internally through neural and hormonal mechanisms such as labile hypertension.

5) Whether permanent vascular changes precede sustained hypertension and thus produce it, or are the result of the increased BP is not known.

6) It appears now, however, that sustained hypertension is not likely to be the end result of labile hypertension.

FIGURE 1 is a schematic representation of this model.

PSYCHOLOGICAL TREATMENT

The patient-physician relationship is the most useful tool in the therapy of the hypertensive. It has been found experimentally that a good relationship cemented by regular supportive therapy has significantly altered the BP in hypertensives and has been as effective as antihypertensive medication. Using our model, we could treat the 'susceptible' individual by trying to dissipate the inhibited emotions through the reduction of anxiety with minor tranquilizers. Practically, this is not overly successful. It is interesting to speculate on the incidence of hypertension in alcoholics, in that alcohol as a disinhibitor might reduce the inhibited emotions of susceptible individuals. Other disinhibiting agents, like sodium amytal may prove useful.

Psychosurgery has not produced dramatic results. There was no consistent change in BP after prefrontal leucotomy. This was undertaken on the assumption that cortical activity might be responsible for the raised BP. At this point in time the physician's own personality is at least equal to other forms of therapy.

There are many questions unanswered about the genesis of hypertension, but I have attempted to develop a model which is consistent with experimental observation and yet allows speculation on the role of those factors not clearly defined.

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An Introduction To The Principles And Techniques Of Supportive Psychotherapy

Paul Finnegan, 7T3

Medical educators and practitioners are increasingly stressing the importance of equipping medical students with a sound working knowledge of the theory and practice of general psychiatry. Although medical schools are allotting more curriculum hours than ever before to undergraduate instruction in psychiatry, young physicians continue to enter practice remarkably devoid of many of the practical psychiatric skills which will be essential to them in helping patients to deal with the varied emotional problems of their everyday lives. It is well known that many patients come to their physician with physical symptoms resulting from emotional disturbances and problems in living of which the patient is essentially unaware. It is equally well known that many physicians, having initially determined that the presenting complaints are derived from psychological distress, have no specific techniques at hand with which to help their patients find relief from their troublesome symptoms.

Undergraduate psychiatric education takes place in lecture halls, in seminar rooms and in the psychiatric inpatient wards of the university teaching hospitals, none of which bear any resemblance at all to the office setting in which the practising physician will encounter distressed patients who are seeking his help. Lecture halls and seminar rooms are reasonable places to learn psychiatric theory but unfortunately knowledge of psychiatric theory achieved without the concomitant development of practical psychiatric skills leaves the physician in a state of clinical impotence. Inpatient wards are appropriate places to learn about the psychoses and their management but the schizophrenics and manic-depressives who populate these wards present therapeutic problems which are quite unlike those encountered in dealing with the emotional problems of the average office patient.

Within the current curriculum medical students have little opportunity to observe, and even less opportunity to participate in the kind of supportive psychotherapy which they will be called upon to provide for their patients from the very first day that they enter practice. It is not surprising, then, that the beginning practitioner has only a vague notion of how to deal with a patient's emotional problems and, in fact, mistrusts his ability to be of any help in this important area.

What follows will serve to introduce you to the principles and techniques of supportive psychotherapy and, hopefully, to stimulate your interest in this most essential clinical skill.

GENERAL PRINCIPLES

"Psychotherapy is the treatment by psychological means of problems of an emotional nature in which a trained person deliberately establishes a professional relationship with a patient with the object (1) of removing, modifying or retarding existing symptoms, (2) of mediating disturbed patterns of behaviour, and (3) of promoting positive personality growth and development."

This comprehensive definition indicates some key features of psychotherapy and suggests that different types of psychotherapy have quite different goals. Basically there are three types of psychotherapy; supportive, reeducative, and reconstructive. Supportive psychotherapy aims for the relief of symptoms and for better adaptation in areas of living in which the patient has failed. Reeducative psychotherapy aims for a reorganization of attitudes and values, corresponding behaviour modification, and expansion of the personality assets with minimization of liabilities. Reconstructive psychotherapy (psychoanalysis) has as its goal the resolution of unconscious conflicts, the alteration of the basic structure of the personality and the activation of potentialities which were thwarted in the course of the individual's development. The more complex forms of psychotherapy utilize special concepts and techniques which have been developed in relation to the goals of the therapy. While few medical students have the aptitudes appropriate to the development of the skills required of a psychoanalyst, most medical students, if they have a sincere desire in helping people, and if they are willing to explore and understand the intricacies of the doctor-patient relationship, have the capacity to become skilled in the techniques of supportive psychotherapy.

The human relationship between the physician and his patient is the essential core around which is woven the complex network of ideas and interactions which constitute the process of supportive psychotherapy.

When a patient comes to your office with a psychological problem he will bring with him a number of important questions about you which he will never ask. In fact, he may not even be consciously aware that these questions weigh heavily on his mind. Yet he will attempt to answer these questions on the basis of his assessment of you. These questions can be stated as follows: "Is this a man I can talk to?" "Will he listen?" "Can I trust him?" "Will he care?" "Will he try to help me with my problems?" The patient will discern the answers to these questions through scrutiny of your behaviour and by consideration of the attitudes of which your behaviour is evidence.

The patient will also bring with him a number of assumptions about you and about the nature of the relationship that he will have with you. He will assume, with considerable justification, that you are a medical authority. He may also assume, perhaps unrealistically, that you are an authority on non-medical matters of the

heart. The patient will unconsciously think of you in terms of childhood relationships with a significant parental figure, transferring to you attributes of that parental figure and relating to you in a rather predetermined way. If you can recognize the nature and importance of your patient's feelings about you, if you can be aware that you are, or can be, a parental authority figure for your patient, then you can become an enormous source of support for a troubled patient in his time of need.

The transfer of feelings originally felt toward his parents to the patient's relationship with you is accompanied by the transfer of related feelings pertaining to nurturance and support. The patient expects to be treated by you with the same warmth and kindness which he received from those who first cared for him. The patient expects that you will care for him. Your attempts at supportive psychotherapy will fail if you do not care for your patient for he will immediately perceive this and your relationship will be unalterably compromised.

You, the doctor, also bring to your relationship with the patient a number of attitudes and patterns of feeling and behaviour which have their origins from experiences that have long since faded from your conscious memory. Since your emotional and behavioral responses to your patient will be so important to the therapy, it is important that you assume the appropriate behaviour towards your patients.

When the patient comes to you, whether he comes with a physical symptom or with a direct statement of psychological distress, he is expressing his assumption, and, indeed, his hope, that you will be both able and willing to help him. If you can take advantage of the patient's implicit positive regard toward you and foster an atmosphere of benevolence, understanding and trust, you will set the stage for an effective collaborative attack on the patient's distressing problems.

You must be honest with the patient. Although you must be tactful and discreet, you must be straightforward. The patient will respond to any lack of candor on your part and will lose his trust in you despite his best intentions. You must be willing to face unpleasant subjects squarely and you must not let concern for hurting the patient be a cover for your own anxieties about particular topics. In this you must be honest with yourself. If you have anxieties centered around subjects which are of concern to your patient, for example, anxieties related to sexual practices or the abuse of alcohol, you must not allow these anxieties to bias your regard for or treatment of your patient. This, of course, is difficult, but the patient has come to you for help and this you must give him to the best of your ability.

Often your ethical standards will be quite different from those of your patient. This situation can be very difficult to handle since you cannot reasonably be expected to totally renounce your personal standards or opinions while treating a patient. However, your task is to treat the patient, not to reform him. You must offer the patient understanding, not judgment. You will want to aid him to resolve his conflicts within his own system of values, rather than to coerce him to adapt your views. There is no place for criticism or reprimand in supportive psychotherapy. You must help the patient to clarify his problems, to articulate solutions, and to chose a solution which is feasible from the standpoint of reality, which includes the requirements of his own psychological makeup, the demands of his particular environment, and the laws of society.

SPECIFIC TECHNIQUES

Supportive psychotherapy may be regarded as a form of treatment designed to maintain a patient's anxiety at a level at which he may successfully face his emotional problems. The patient usually has a basically sound personality structure and is momentarily submerged by transient pressure which he is unable to handle. The object is to bring the patient as rapidly as possible to an emotional equilibrium with relief from his troublesome symptoms, so that he can again function at a level approximating his norm. There is no intent to change the personality structure of the patient although constructive character alterations may develop as a consequence of treatment.

The techniques of supportive psychotherapy are quite simple. They take advantage of the patient's positive attitudes toward his doctor and they depend on the physician both maintaining and fostering the development of these attitudes in order to achieve an appropriate therapeutic result for his patient. The techniques are as legitimate and as honest as the relationship upon which they are based, the relationship which quite naturally develops between a patient who goes to his doctor for help and a doctor who cares for the patient and truly wishes to help him.

LISTENING

Listening is what you do while the patient ventilates his feelings about his troubles. Getting things off one's chest makes it possible to subject the painful inner elements to a more objective review. Ventilation effects mental and emotional catharsis and is the first step in the mastery of troublesome emotions. Sharing his inner feelings with a physician who listens attentively without interrupting or moralizing is therapeutic for the patient as it reassures him of the importance and authenticity of his feelings and allows him to begin the processes of self-assessment and self-adjustment.

FACILITATIVE COMMENTS

It is important to encourage the patient to ventilate his feelings and to avoid unproductive digressions. Comments like "What do you mean by that?", "Tell me a little more about this", or "I would like you to enlarge on this point since it seems to be very important to you"

are facilitative remarks which you can use to encourage the patient to take a deeper look into an important problem. Other comments like "I can see what you mean", "I can understand that" or "And then what did you think (do, say)?" convey to the patient that you are interested in what he is saying and thus stimulate him to further amplification. Other remarks, such as "Why did you think (do, say) that?" or "Why did that present such a problem to you?", will stimulate your patient to seek out important casual relationships which he might not otherwise discover.

PERMISSIVE ATTITUDES

The doctor's attitude toward the patient is one of acceptance. The patient is neither judged nor condemned; he is listened to. Your acceptance of the patient will encourage his acceptance of himself. This is especially important as it relates to feelings of guilt which the patient may express. The fact that you, the doctor, recognize and accept the patient's guilt feelings, without condemnation of the act to which they are related, will encourage the patient to accept his guilt and to bear it maturely. If the magnitude of the guilt feeling is grossly disproportionate to the 'crime', a simple facilitative comment in this regard will assist the patient to reconsider his emotional response to whatever it is he has done.

REASSURANCE

The patient will feel reassured if he feels that the doctor really understands his situation, if his own understanding is increased by the doctor's comments, and if he thinks that his feelings, no matter how irrational, have been accepted. Reassurance leads to increased self-understanding and to an increase in self-esteem. However, the reassurance must be honest and the dosage must be well suited to the patient. People share a great many misconceptions about themselves and these ideas can generate an enormous amount of turmoil in their inner lives. The physician must make it clear to his patient that he understand and accepts those feelings and he must provide calm reassurance for his troubled patient. The positive regard in which the physician is held makes it possible for the patient to accept his reassurance and to discard his anxiety provoking misconceptions.

CLARIFICATION

Clarification is essentially the restatement of what the patient has already said in order to condense it, sharpen its focus and to give it emphasis. It is better to make the restatement in words other than those used by the patient for this will indicate to him that you have been listening and that you have understood. It will also more readily focus his attention on the issue at hand and will encourage him to reconsider it. In clarifying an issue for a patient it is important that you do not go beyond what the patient has already said. The purpose of clarification is to stimulate the patient to do that on his own.

REASONING

Reasoning is the appeal to the patient's reason and intelligence in order to get him to abandon inappropriate attitudes and feelings, and to help him regain his self-respect, and to increase his ability to deal effectively with the social and phychological circumstances of his life. In utilizing this technique the physician must keep in mind the intellectual capacity of the patient as well as the emotional factors which may interfere with the reasoning processes of the patient.

EXPLANATION

Explanation has many applications in supportive psychotherapy but nowhere has it more significantly used than in relation to the patient's misconceptions about their physiological functioning. Erroneous ideas about bowel and genital functioning, for example, cause patients a good deal of anxiety which is often the real source of organic problems. Careful and adequate explanation of the facts by the concerned physician will go a long way in relieving these anxieties and will help the patient reach a more enlightened adjustment to his own body. In explaining the facts to a patient the physician must take into consideration not only the misinformation which the patient has obtained but also the patient's feelings in regard to that information. It is not enough just to 'state the facts' for the patient will be unable to accept them if his feelings about what he previously thought to be true have not been appropriately dealt with by the physician.

ENCOURAGEMENT

Encouragement is derived from the emphasis the physician places on the positive, healthy and constructive aspects of the patient's attitudes and behaviour. The purpose of encouragement is to increase the patient's self-esteem, to give him a sense of accomplishment and of hope, and to increase his ability to cope. The astute physician who offers an appropriate amount of honest praise at the proper time will mobilize within his patient a good deal of his capacity to manage his own emotional and social life.

GIVING ADVICE

Physicians tend to cringe when their patients ask them directly for advice. No physician wants to be forced into the position of making important decisions for a patient and yet every physician finds it difficult to refrain from telling his patients what he thinks they should do. A convenient and therapeutic technique for avoiding this dilemma is for the physician to simply discuss the objective features of the patient's situation and to delineate alternative solutions which the patient might choose, all the while considering and discussing how the patient has said that he feels about his problem and its possible solutions. The physician then encourages the patient to talk about the alternatives before him and in this way the patient's own decision is allowed to crystallize. This technique avoids the problems of having the

physician make up the patient's mind for him and makes the patient the master of his own affairs.

INTERPRETATION

An interpretation is a statement made by the physician which attempts to make conscious to the patient meanings and relationships which go far beyond his immediate awareness and beyond the material that he has recently discussed. Interpretations are usually offered to the patient to increase his understanding of the psychodynamic significance of situations and feelings from his distant past in relation to his current situation and feeling state. For the most part interpretation should not be employed as a psychotherapeutic technique by any practitioner who has not been thoroughly trained in its use. An incorrect interpretation, or even a correct one which is poorly timed or offered in an inappropriate manner will always be purposeless and may often be damaging. The psychiatrist and the psychoanalyst are especially skilled in probing the complexities of the human personality while the physician who is practising supportive psychotherapy is primarily concerned with the relief of his patient's symptoms. For a general practitioner to act beyond the limits of his capabilities is to invite disaster.

These techniques should be incorporated into an interaction with the patient, which is both natural and comfortable. Although generally you should listen with sympathetic understanding and talk in a relaxed conversational tone, you must develop the details of your own individual style of dealing with your patients. Your style must be consistent with your personality and must reflect your genuine concern for the patient as well as your willingness and ability to help him.

Supportive psychotherapy is indicated for patients who have a basically sound personality and in whom emotional difficulties have become manifest in relation to certain evident environmental stresses. Symptoms of moderate anxiety (jitteriness, palpitations, hyperventilation, sweating, feelings of tightness across the chest, etc.) and symptoms of moderate depression (lack of energy, insomnia, poor appetite, loss of sex drive, constipation, etc.) commonly manifest themselves in relation to troublesome events of everyday living. Circumstances which may precipitate such symptoms include: the loss of someone important, through death, illness, desertion, separation or divorce; marital difficulties relating to poor sexual adjustment or lack of companionships; discovery of a new pregnancy or the recent birth of a child; and change or loss of a job, or the development of conflicts with a person in authority.

Supportive psychotherapy will usually provide the patient with relief from his distressing symptoms and may even foster in him the development of attitudes which will aid him in the conduct of his life. The patient's basic personality will remain essentially unchanged as will many of his attitudes and most of his behaviour. The goal of supportive psychotherapy is not to change attitudes and behaviour nor is it to attempt the reconstruction of the personality. However, supportive psychotherapy may stimulate the patient to request additional psychotherapy, either reeducative or reconstructive, and if it does an appropriate referral should be made.

ADDITIONAL CONSIDERATION

Many physicians maintain attitudes toward psychotherapy which lessen the impact of potentially psychotherapeutic relationships with their patients. One of these attitudes pertains to the intangibility of psychotherapy in contrast to the concrete character of medical and surgical therapy. Physicians often think that they can help their patients only by prescribing a medication or by performing a surgical procedure. They feel that listening to and talking with a patient is a waste of everyone's time and that to do something *for* a patient is to do something *to* him. Physician's attitudes about the efficacy of psychotherapy are reflected in their reservations about charging patients for 'just listening to them'. Further, in underestimating their therapeutic impact on their patients, physicians tend to ascribe all changes in the patient's condition to factors far removed from the psychotherapeutic relationship in which they are together involved.

Another negative attitude toward psychotherapy which is commonly held by physicians relates to the development of closeness between themselves and their patients. Physicians fear, for example, that their patients will become excessively dependent on them. They also find that patients remind them of themselves and their own anxieties prevent them from truly listening to those of the patient.

You cannot come to know very much about others without learning about yourself, how your life fits together, and how you defend against experiencing anxieties and insecurities. Such learning about the self is bound to produce some discomfort in anyone who dares to be sensitive. The practice of medicine offers you a unique opportunity for personal growth for as a physician you can learn about man not just as a spectator but as a participant in the intimate drama of his everyday life. Each doctor-patient relationship becomes an opportunity not only to help a patient but also to educate yourself. As a physician realizes the benefits to himself of open and active participation in the demanding interpersonal relationships entailed in psychotherapy, he becomes more able to give himself to his patients, to use his own personality as an instrument of therapy, and to feel neither deprived nor resentful in so doing.

BOOKS

You must read a short book called *The Twenty-Minute Hour*. It is simply the best practical guide to supportive psychotherapy written to date. It is designed to demonstrate to physicians that it is possible to do effective supportive

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Victor V. Strelzow, B.Sc., 7T3

"Minimal Brain Dysfunction" As A Syndrome

Minimal brain dysfunction (MBD) is a widely encompassing term referring to the syndrome of deviations in behavioral, neurologic, cognitive, social and emotional functions in childhood. Originally described in 1941, by Werner and Strauss in children with fairly convincing histories of cerebral damage and mental retardation, MBD as a syndrome has undergone considerable medical license — "minimal chronic brain syndrome", "cerebral dysfunction", "hyperkinetic brain syndrome," etc. These terms have specific etiological or phenomenological bases for their name, but perhaps it would be more accurate at this point in its understanding, to define MBD as a purely descriptive and inclusive term, as the United State Department of Health has in:

> "the term 'minimal brain dysfunction syndrome' refers . . . to children of near average, average or above average intelligence with certain learning or behavioral disabilities ranging from mild to severe, which are associated with deviations of function of the central nervous system. These deviations may manifest themselves by various combinations of impairment in perception, conceptualization, language, memory and control of attention, impulse or motor function"[1].

Just as anemia was once considered on a single etiological basis, so maybe MBD will, with the increasing resolving power of medicine, be further redefined as a complex grouping of individual pathologies.

Of the symptoms involved, hyperactivity is perhaps the most commonly noticed, and estimates of 4-10% of children by grade 2 being hyperactive have been made[2]. (This has been reported as being up to ten times more common in boys than girls.) Second in diagnosed frequency are learning difficulties, and estimates of 10-15% of early public school children having some significant degree of this disability have also been made. The incidence of all the symptoms, both their severity and the numbers present at the one time, is found higher during the early childhood years, and initial diagnosis of MBD in latter school years or adolescence is usually based on less obvious concrete symptoms and signs. Family and twin studies have shown no positive correlation with an inheritable mode of transmission[2]. Studies with socioeconomic class structure and ethnic backgrounds have found no significant relationship to MBD other than those generally coincident to the class and culture.

CLINICAL PICTURE AND ASSOCIATED SYMPTOMS

A review of the definition reveals that any one diagnosis of MBD may be a variable aggregation of symptoms. These usually are detected because they cause the child, parents, teachers or enforcement authorities, significant problems that they seek medical attention. But what of the average child who just is a "slow" reader in grade 1, somewhat overexcitable and inattentive and easily frustrated at home and at school, who graduates to the work force by the age of 16? Obviously this child is in as much of a need for medical attention as is the juvenile diabetic or the epileptic child. For this reason it is important to thoroughly investigate any child who presents with any one of the common symptoms, so as to be able to delineate the full extent of the possible deficit and hence institute appropriate therapy. The most frequently cited symptoms are:

1. hyperactivity;
2. learning disorders including visual and auditory perception deficits, perceptual-motor impairment and abnormalities in concept-memory formation;
3. problems in attention and concentration;
4. impulsivity;
5. emotional lability and personality factors;
6. equivocal or "soft" neurological signs and E.E.G. results.

1. Hyperactivity

a) *Pre-school*

Hyperactivity in the pre-school child is likely to manifest itself in incessant physical activity: the child being always on the go, getting into everything, always sustaining bruises and cuts and scraped knees, climbing out of the crib, not having to sleep as much so that he is up and at mother in the wee hours of the morning. He plays for hours without tiring, and is unable to sit down to any organized activity, etc. Classically the mother tells you that "little Johnny is completely wild", that she "can't control him", and that they have tried "all sorts of discipline, but he's not settling down", and if this continues, he'll drive us all crazy!"

b) *School age*

After starting school, the symptoms may surface even more. Complaints from teachers include inability to remain in their seat, wiggling, turning and incessant talking to his classmates or hastily going on with his work without sufficient planning. His inappropriate movements and impulsive overactivity are commonly disruptive to the rest of the class, and consequently further problems start because of the hyperactivity. Although more active, organized activities start in school, during recess and after adjournment, the child's overabundant energies, along with the other problems such as inattention and emotional lability, usually make him end up unable to participate in group sports, and being involved in constant fights. Even after these school problems become less significant, hyperactivity may still be present during meals, watching television, church, car rides, etc.

2. Academic underachievement

a) *Intelligence*

One cardinal criterion for recognising MBD is a failure to learn despite adequate intellectual talents. Generally, children with MBD have IQs within the normal or just below normal range, and although the performance score versus the verbal score may be different by ten or more points (stated by some as being characteristic of this disease), there seems to be no sole constant finding in these children. If anything, the language based tests will usually be lower than those not relying on this parameter. It is also important during the testing to decide to what extent the results are the reflections of cognitive functions or dysfunctions along with or rather than added factors of inattentiveness, impulsiveness, anxiety and frustration.

b) *Audio-visual aperception*

Many children experience difficulty in auditory processing of language, giving erratic responses to sound, having difficulty discriminating phenomena and being unable to synthesize speech sounds into meaningful units. Patterned auditory stimuli may be poorly comprehended yet pure tone hearing may be adequate. Difficulties in temporal patterning of sounds and rhythm have been implicated in children with severe reading disabilities.

Perceptual disorganization in MBD children, tested with design copying, is in general similar to that found in results of the younger normal children: rotated drawings, crude reproductions of circles and dots, gross distortions of gestlten perseverations, difficulty with acute angles, and poor overall organization of the figures on the page. This also involves testing the visual-motor organization.

c) *Concepts and memory formation*

Frequently a child may perform adequately in the copying of figures, but be unable to do so from memory. This defect is thought to be due to the inability of these MBD children to organize perceptual material so that this cannot be recalled effectively.

Problems in abstraction and the inability to work with symbols, manifest with mathematical difficulties, are common. Dyscalculia may be present and written numerals may show spatial disorientation.

3. Inattentiveness and Impulsivity

Most children with this symptom exhibit difficulties in focusing and sustaining attention and become quickly distracted by every little thing. They don't seem to be able to selectively discriminate the significant external stimuli and so are readily bothered by inconsequential factors. The great handicap this presents to the handling of abstract concepts and to the learning process is painfully obvious, but it also makes the hyperactive child seem more at the mercy of his "sped-up" dynamics.

The inattentiveness may also be the crux of impulsiveness, and perhaps irresponsibility. With his limited attention span, the child tends to be constantly starting new activities with little chance for any forethought to occur before he has already performed the action. This may present as antisocial, inappropriate or disruptive activities.

4. Emotional Lability and Personality Factors

Often the child will react with excessive degrees of excitement, panic, anger, temper tantrums or crying in situations that are inappropriate for his age and maturity. The stresses of every-day responsibilities further detract from the child's ability to successfully cope and display his full talents. Most MBD children after being seen by their family doctor or pediatrician, get a second label that usually reflects the psychological concommitant to his disabilities. Usually becoming more acute on starting school, the child learns that independent of how earnestly he tries, he is continually failing at the most simple tasks thereby incurring the wrath of both his elders and his peers. Having an average capacity for understanding, he senses this bind, and problems of acting out and open frustration, mild depression, aggression and open defiance result. The child becomes very dependent on his parents for emotional support and demands immediate gratification of every need. This generally leads to the establishment of a very inadequate personality and carries with it the additional problems with which it is associated. It has been stated that if learning problems continue past the age of 10 or 12, 60% of these children will exhibit serious emotional problems. Although the incidence of psychiatric disorders in MBD children is higher than that of the general population, it is not conclusive of a definite causal relationship between this disorder and future predisposition to significant psychic disorders because of the variable secondary reactions of each individual child and his environment, to his particular problems.

5. Neurological Signs

Characteristically these children have equivocal, minimal or so-called "soft" neurological signs that may include: motor impersistance, maladroitness, dysdiadochokinesia, generalized and minimal ataxia, inability to successfully hop, Babinskis on occasion, involuntary movements, graphesthesia, visual and or hearing impairment, and mild apraxias[3]. This presents on history as slowness to master handling scissors or pencils, problems in skipping rope and catching balls, and slowness to develop handedness. The E.E.G. changes of 14 and 6 per second positive spikes are not pathognomonic of the condition. Invariably, however, E.E.G. tracings differ from those of normal children.

ETIOLOGICAL CONSIDERATIONS

Generally the origins of MBD have been mainly speculated on organic and psychologic bases. Support for the psychogenic hypothesis is the finding that hyperactive children often appeared "different" from the normal, and exhibited the behavioral and emotional maladjust-

ments previously discussed. However studies have shown no significant differences in psychiatric disorders in families of MBD children and those of normal children[2]. Also, these families are often described as being psychologically affected by the birth and raising of the handicapped child rather than vice versa. Since objective studies have not shown any faulty dynamics, medical opinion has shifted away from this etiology.

The common finding of "soft" neurological signs suggests an organic origin of MBD. Although the original emphasis on complications of prenatal life and during birth has always remained high on the suspect list, repeated attempts at tracing the symptoms to any definite "brain damaging" episodes have been unsuccessful. Hence the problem with defining the syndrome itself as to specific etiology. Family and twin studies as well as studies of frequency of hyperactivity in the families of hyperactives as compared to normal controls, have shown no clear genetic basis. Less scientific clues come from mothers who describe the child as always being "difficult" and anyone who has had the opportunity to work in newborn nurseries will attest to the normal finding that some babies seem to be more irritable, physically active, cranky and colicky than others.

The current balance of opinion is in favour of a variable biologic etiology, with a variable degree of infiuence of familial, social and educational factors.

EVALUATIVE MEASURES

A. Hyperactivity and Neurological Components

1. Physical examination with complete neurological — preferably by a pediatric neurologist
2. E.E.G. — non-specific, but additive
   — brain scans, encephalograms, skull X-rays (ventriculograms) usually completely negative
3. Lincoln-Oseretsky motor development scale
4. Porteus Mazes
5. Motor inhibition tests
6. Family interview and history of dynamics essential
7. School history and behavior

B. Psychological Components

1. Tests of auditory discrimination and auditory synthesis
2. Wechsler Intelligence Scale for children
3. Revised Stanford-Binet test
4. Bender visual-motor gestalt test
5. Wide Range Achievement test
6. Draw-A-Man test
7. Sentence memory test
8. Benton visual retention test

EVALUATION AND DIAGNOSES

Because of the questionable etiology and pathogenesis of MBD, the diagnosis and assessment relies heavily on the ability of the examiner to evaluate the past history in order to successfully:

1. eliminate the possibility of progressive and treatable physical disease, particularly of C. N. S.;
2. make some estimate of the child's behavioral, social and educational handicaps;
3. decide on the best method of management, keeping in mind his own medical interests, abilities and consultative resources.

The resultant sequence of investigation may especially include:

1. prenatal, obstetrical and perinatal history;
2. quite extensive evaluation of developmental milestones;
3. investigation of family dynamics, including mother-child relationships, interaction with siblings, and his peer group relationships;
4. school behavior and scholastic records;
5. psychological and educational testing;
6. complete neurological with necessary tests (if any), preferably by consultation.

The different possible symptomatology makes it difficult to differentiate a diagnosis of MBD from a large and divergent group etiologies such as:

1. *constitutional* — extreme variants of normal, mental retardation;
2. *metabolic and endocrine* — hyperthyroid, avitaminosis, anemia and malnutrition;
3. *toxicity* — psychotomimetic or barbiturate drugs;
4. *maturational* — postulated late maturation of the C. N. S.
5. *environmental or acquired* — emotional, social deprivation or reinforcing hyperactivity;
6. *C.N.S. impairment* — acute or chronic brain syndrome, seizures, extrapyramidal diseases, aphasias;
7. *reactive* — conflict between drives and environment leading to pathological behavioral response;
8. *developmental* — pathological deviation in personality development;
9. *auditory and/or visual handicaps;*
10. *psychosis* — severe behavioral or thought disorders such as childhood schizophrenia.

MANAGEMENT CONSIDERATIONS

Since MBD as a syndrome has a number of clinically different symptoms of even more ambiguous etiology, it is not surprising that no one therapy is totally effective. Consequently several modalities are currently being utilized to bring about the best result. Without the cause-effect relationship being clear these treatments are necessarily still symptomatic rather than curative in their effects.

1. Pharmacotherapy

Unfortunately, even though some drugs have been used with moderate success for over 30 years (e.g. am-

phetamines), this form of therapy is one of the less productive forms of treatment in terms of numbers of children helped, the scope of improvement and the time until relapse of symptoms[3]. Therapeutically, drugs are successful as adjuvants to the other forms of therapy. The commonly used drugs are given in Table 1.

TABLE 1
Drug Selection in Treatment of Hyperkinetic Behavior in Childhood[4]

Name of Drug		Average Dose Range mg./Day	Total Patients Tested	Patients Improved Per Cent	Patients with side effects per cent
Generic	Trade				
Methylphenidate	Ritalin	5-60	337	83%	14%
Amphetamine	Dexedrine	5-30	610	69%	12%
Chlordiazepoxide	Librium	5-30	237	60%	18%
Chlorpromazine	Thorazine	10-50	153	55%	25%
Deanol	Deaner	50-150	239	47%	7%
Reserpine	Serpasil	0.25-0.5	165	34%	1%
Totals			1741	62%	12%

As with all drugs and especially with the dosage regimen utilized in MBD, one must continue to balance the ever present potential of morbidity or even mortality with the beneficial result.

A few guidelines should be observed:

1. Obtain a well-grounded knowledge of a few of the more effective drugs, and begin with the given initial dosage, thereafter titrating the dosage with the clinical result.
2. One can generally increase the dosage until side effects occur. It may be advisable for repeat physical examinations two weeks from the initial doses, then at 4-6 week intervals.
3. Avoid short course treatments. Maintain during the school year, giving no drugs during the summer and reassess at the start of the next grade. Some authors have suggested "3 weeks on — 1 week off", and weekends without drugs to minimize the onset of tolerance and side effects.
4. Remember to monitor the child's school and home behavior to achieve a feed-back on the effect of the medications.
5. Barbiturates are contraindicated because they actually increase the signs and symptoms of MBD.

2. Psychotherapy

Psychotherapy per se has not proven to be a curative experience for MBD in the way that it has for some neuroses or pure character disorders, but there seems to be a very definite and palliative role for it in several forms. Supportive measures to a child who may see the world and its institutions as a constant and unyielding source of failure, humiliation, base discipline, and frustration to him, can be of benefit.

It is quite remarkable how perceptive and understanding young children are about your explanations of their parents, teachers, siblings and peers reaction to them, of why they are acting in a particular way, and of the different innovative responses that they could try in order to stay out of trouble. The use of behavior theory, based on operant conditioning, with parents, teachers, special day care staff has proven quite helpful in modifying the MBD child's chronically maladaptive behavior when used consistently over long periods of time. Family counselling is a very definite need and "the child's parents, usually defeated, confused and angry by the time the physician sees them, need to understand that his behavior is not malevolent or hostile, but stems from a deficiency in neurophysiologic control mechanisms"[5]. These several approaches mentioned, help make a difficult situation a bit less so.

3. Educational Intervention

There is a growing awareness in the educational sphere that different children have different talents and shortcomings. There are now, special programs increasingly available to utilize these differences and to make as much use of them in each case, as possible. Children with cognitive disabilities test these specialties out to their fullest. Special classes with small numbers of pupils, specially attuned teachers, modified programs and opportunities, do much to allow these children to realize whatever potential they possess, and since this is often heavily counterbalanced by shortcomings, it is just that more important.

4. Environmental Manipulation

In several educational studies, it has been suggested that a structured environment in which the child's daily routines are regular and form limits on his behavior with avoiding of over stimulation and excessive fatigue is more suited to the MBD child than permissiveness.[6] Tantrums, aggressive and destructive behavior are best handled by ignoring the child or by prompt reprimand. The child may be isolated in his own room. These procedures are done with consistency, firmness and fairness and a minimum of discussion to decrease the potential for manipulative behavior. Praise and encouragement should follow the child's successful attempts to control his own behavior and such responsibility should be earnestly cultivated because this will need to be the case in adulthood. It must be added that this is, of course, not the product of malice but a necessary step in helping to provide the growing child with a stronger internal self disciplinary device and hence make him more responsible and tolerable as an adult in a world of rules and regulations.

PROGNOSIS

The prognosis for MBD children seems to vary as to the symptoms involved[7]. As well as hyperactivity being more prevalent in younger age groups, the general

Continued on page 50

Grand Round Quiz — Questions

Victor V. Strelzow, B.Sc., 7T3

Select the one correct answer to each question. (Answers on page 51)

I. *A 45-year-old, married, Jewish woman had a 15-year history of severe recurrent, intermittent unilateral frontal and orbital headaches. Associated phenomena included nausea, vomiting and nasal stuffiness. On many occasions the headache area was tender to palpation. Duration was from 3-24 hours.*

1. *The most likely diagnosis is:*
   a) Intracranial tumour
   b) Tension headache
   c) Conversion reaction
   d) Hypertensive headache
   e) Migraine headache

2. *According to psychodynamic theory, the headache is:*
   a) Has no symbolic significance
   b) An epiphenomenon
   c) A manifestation of oral introjection
   d) Related to ambivalence
   e) Has primary symbolic significance

3. *Clinically speaking, this type of headache is often associated with:*
   a) Decreased life expectancy
   b) Premature ejaculation
   c) Fits of rage and actual violence
   d) Alcohol withdrawal
   e) Fluid retention

4. *Unilateral pressure on the common carotid artery on the side of the headache can sometimes cause:*
   a) Visual hallucinations
   b) Decrease in the symptoms
   c) Circulatory collapse
   d) Exacerbation of the symptoms
   e) None of the above

5. *The character structure most usually associated is:*
   a) Hysterical personality
   b) Passive-aggressive personality
   c) Schizoid personality
   d) Obsessive personality
   e) Inadequate personality

6. *Psychodynamically, a situation that might precipitate a headache will follow an episode of:*
   a) Unexpressed rage
   b) Failure in work
   c) Separation from a loved one
   d) All of the above
   e) None of the above

7. *The prodromal symptoms are associated with the:*
   a) Thrombosis of involved vessels
   b) Constriction of involved vessels
   c) Dilatation of involved vessels
   d) All of the above
   e) None of the above

8. *The headache symptoms are associated with:*
   a) Dilatation of involved vessels
   b) Constriction of involved vessels
   c) Thrombosis of involved vessels
   d) All of the above
   d) None of the above
   e) None of the above

9. *It is not uncommon to find the headache:*
   a) Is more common in women
   b) Can be aborted with ergotamine
   c) Has a familial history
   d) All of the above
   e) None of the above

II. *A 68-year-old widower is brought to a physician by his family, who describe that they found him wandering outside their home in a "dazed state". They add that he has had similar states of varying length over the past two years, during which time he has become more irritable and unkempt. Paradoxically, he has had periods when he was quite "normal". Five years ago he had a myocardial infarction, and has had blood pressure readings averaging 190/110 for about ten years before that. On mental examination, he is disoriented for time and place, is irritable but cooperative, and asks the physician to get his parents, who he says are waiting outside the examination room. Neurological examination is essentially normal for his age.*

1. *The most likely diagnosis is:*
   a) Involuntional depressive reaction
   b) Chronic brain syndrome associated with convulsive disease
   c) Chronic brain syndrome associated with cerebral arteriosclerosis
   d) Senile psychosis
   e) None of the above

2. *The laboratory test which would be least helpful in differentiating this from other similar syndromes is:*
   a) Urinary porphobilinogen
   b) Serology
   c) Fasting blood sugar
   d) BUN
   e) Spinal tap

3. *The finding least expected in this clinical picture is:*
   a) Babinski signs
   b) Convulsive seizures
   c) Delusions
   d) Restlessness
   e) Neologisms

4. *Characteristically, such patients show:*
   a) More loss for recent events
   b) More loss for remote events
   c) Memory loss equal for recent and remote events
   d) No true memory loss
   e) Any of these patterns

5. *Characteristically, such patients show increase in their symptoms:*
   a) At night
   b) While on subways
   c) Before meals
   d) In crowded places
   e) None of the above

6. *In the major differential diagnostic problem which this patient presents, the least helpful is:*
   a) Ratio of recent to remote memory loss
   b) Neurologic signs
   c) Presence or absence of seizures
   d) Fluctuating course
   e) Degree of preservation of premorbid personality

7. *The statement of the patient that his parents were in the next room, although he could not identify the time and the place, would be termed:*
   a) Confabulation
   b) Acalculia
   c) Paraphrenia
   d) Dissimulation
   e) Perseveration

8. *In the differential diagnosis of a functional disorder from a dementia, which part of the mental status exam is least important:*
   a) Capacity to recall digits
   b) Tests for memory
   c) Word associations
   d) Orientation
   e) Fund of information

9. *With our present knowledge, dementia praecox is a poor term as:*
   a) Dementia is late, rather than early
   b) Most cases do not become "demented"
   c) The onset of the illness is usually earlier than was originally thought
   d) All of the above
   e) None of the above

10. *The treatment of the case described above should include:*
    a) Vasodilators
    b) Dicoumarol
    c) Vitamin E
    d) Heparin
    e) None of the above

11. *If the patient is admitted to the hospital, one should advise the family:*
    a) That he will soon be home
    b) To redecorate his room while he is away so that he will find little to remind him of this episode
    c) Not to visit or call
    d) All of the above
    e) None of the above

12. *His premorbid personality:*
    a) Is irrelevant to etiology
    b) Is irrelevant to symptoms
    c) Is irrelevant to treatment
    d) All of the above
    e) A and B, but not C

III. *A 40-year-old man walks into the emergency room breathing very rapidly and complaining if inability to catch his breath, knife-like pains localized over the left chest, and a fear of death. He has never had any similar difficulty. Emergency physical examination, EKG, and chest X-ray are all within normal limits.*

1. *Least likely diagnosis on the basis of the history is:*
   a) Acute catatonic excitement
   b) Acute tension pneumothorax
   c) Acute anxiety reaction
   d) Acute myocardial infarction
   e) Acute pericarditis

2. *If one was clinically sure of the absence of any organic pathology, one could expect which of the following in the history of the patient:*
   a) Phobias
   b) Slight depression
   c) Diplopia
   d) Periods of light-headedness
   e) All of the above

3. *Most disturbing to the diagnosis which this story suggests would be the additional history of:*
   a) Urinary frequency
   b) Paresthesia
   c) Respiratory rate of 30
   d) Loss of consciousness
   e) Pulse of 120

4. *A good form of acute treatment is:*
   a) I. V. Torazine
   b) Dilantin
   c) Breathing into a paper bag
   d) Insulin
   e) None of the above

5. *The acute symptomatology can be simulated by:*
   a) Triiodothyronine
   b) Precordial pressure
   c) Hyperventilation
   d) I. V. amytal
   e) None of the above

IV. *A 28-year-old Canadian born female physician was admitted to a psychiatric hospital following separation from her husband, who was an M.D. in another city. About 3 months prior to admission, the patient found it increasingly difficult to do an adequate job as a hospital resident. She was increasingly meticulous about her workups and began*

to doubt her diagnoses. She was frequently moved to tears when she thought of the patients' ills. She became increasingly preoccupied with the woes of the world and began to feel she had failed in her responsibilities to her community. Increasing progressive symptoms including anorexia, insomnia and anxiety episodes led to hospitalization. There was a past history of periods of sadness and rare periods of strenuous hyperactivity and mood elevation.

1. *Psychodynamically, a crucial event in precipitating her illness may have been:*
   a) Separation from her husband
   b) Poor work performance
   c) Preoccupation with woes of the world as a resident at T.W.H.
   d) All of the above
   e) None of the above

2. *From the case history the patient's symptoms indicate:*
   a) Hospitalization will probably be of no value
   b) More detailed history and mental status are required
   c) She is psychotic
   d) She is neurotic
   e) None of the above

3. *If drugs are used in the treatment, which of the following would be the drug of choice:*
   a) Valium
   b) Imipramine
   c) Meprobamate
   d) Seconal
   e) Chlorpromazine

4. *The possibility of suicide is significantly increased by:*
   a) Finding other family members who have committed suicide
   b) Finding other family members with severe emotional disorders
   c) Finding paranoid ideation in the mental status
   d) All of the above
   e) None of the above

5. *Succinylcholine chloride is used to facilitate:*
   a) Sodium amytal interviews
   b) Psychotherapy
   c) Electroconvulsive therapy
   d) Hypnotherapy
   e) All of the above

6. *In looking for the possibility of suicide in this patient, one should be concerned by:*
   a) Dreams relating to suicide and death
   b) Increasing isolation in job and private life
   c) Sudden elevation of mood
   d) Ideas relating to method of suicide
   e) All of the above

7. *In the history there is superficial evidence of:*
   a) A cyclic illness
   b) Intense guilt
   c) Obsessive preoccupation
   d) All of the above
   e) None of the above

8. *The following characteristics might be expected in a more detailed characterological study:*
   a) Easy going, unpredictable and irresponsible
   b) Perfectionistic, scrupulous and self-demanding
   c) Suspiciousness, grandiosity and garrulousness
   d) Competitive, dishonest and seductive
   e) None of the above

9. *The "organic" disorder(s) which may present in a similar manner is (are):*
   a) Carcinoma of the stomach
   b) Pulmonary tuberculosis
   c) Parathyroid adenoma
   d) All of the above
   e) None of the above

10. *Hospitalization of the patient has important psychodynamic meanings, included is (are):*
    a) Meeting of dependency needs
    b) Lowering of self esteem
    c) Increasing guilt
    d) All of the above
    e) None of the above

V. *A 35-year-old Jamaican female, was admitted to the medical service of a Toronto teaching hospital with chief complaint of severe abdominal pain. Physical examination was normal except for numerous pinpoint marks on both arms. The patient was discharged after routine workup was within normal limits. Two months later she was admitted to the psychiatric service with a history of bizarre behavior of several weeks duration, characterized by intermittent posturing, occasional assaultive behavior, delusions, confusion and auditory hallucinations. Past history revealed recurrent similar episodes, and the family described her as always being difficult.*

The patient returned to pre-morbid state with simple symptomatic treatment of rest and analgesics, and was discharged. One week later she was admitted to the medical service complaining of weakness, and within 24 hours had a flaccid paralysis, with respiratory difficulty and dysphoria. She now required intensive supportive treatment and recovered. Workup at this time by a clerk, resulted in a definitive diagnosis.

1. *The diagnosis was most likely:*
   a) Schizophrenic reaction, catatonic type
   b) Familial periodic paralysis
   c) Delirium tremens

d) Acute hallucinosis
e) None of the above

2. *The test most likely to aid in a definitive diagnosis would make use of:*
a) Colloidal gold curve
b) Glucose tolerance test
c) Ehrlich's reagent
d) Serum transaminase determination
e) Cephalin flocculation

3. *The disease process:*
a) Is rarely seen in Scandinavia
b) Has a genetic component
c) Occurs predominantly in Negroes
d) Is associated with clubbed feet
e) None of the above

4. *The neurological difficulties:*
a) Are a real threat to life
b) Are rarely life threatening
c) Respond to intravenous potassium
d) Never leave residual defects
e) None of the above

5. *Red urine:*
a) Can sometimes develop if exposed to the sun
b) Can sometimes develop if kept in the dark
c) Can sometimes develop if heated
d) Is usually seen on voiding
e) None of the above

6. *Treatment of choice includes:*
a) Barbiturates
b) Chlorpromazine
c) Monoamine oxidase inhibitors
d) Adrenal steroids
e) None of the above

7. *In many ways we can expect an increase in the appearance of cases of this disorder because of the increased use of:*
a) Monoamine oxidase inhibitors
b) Adrenal steroids
c) Barbiturates
d) Chlorpromazine
e) "banana seats" on bicycles

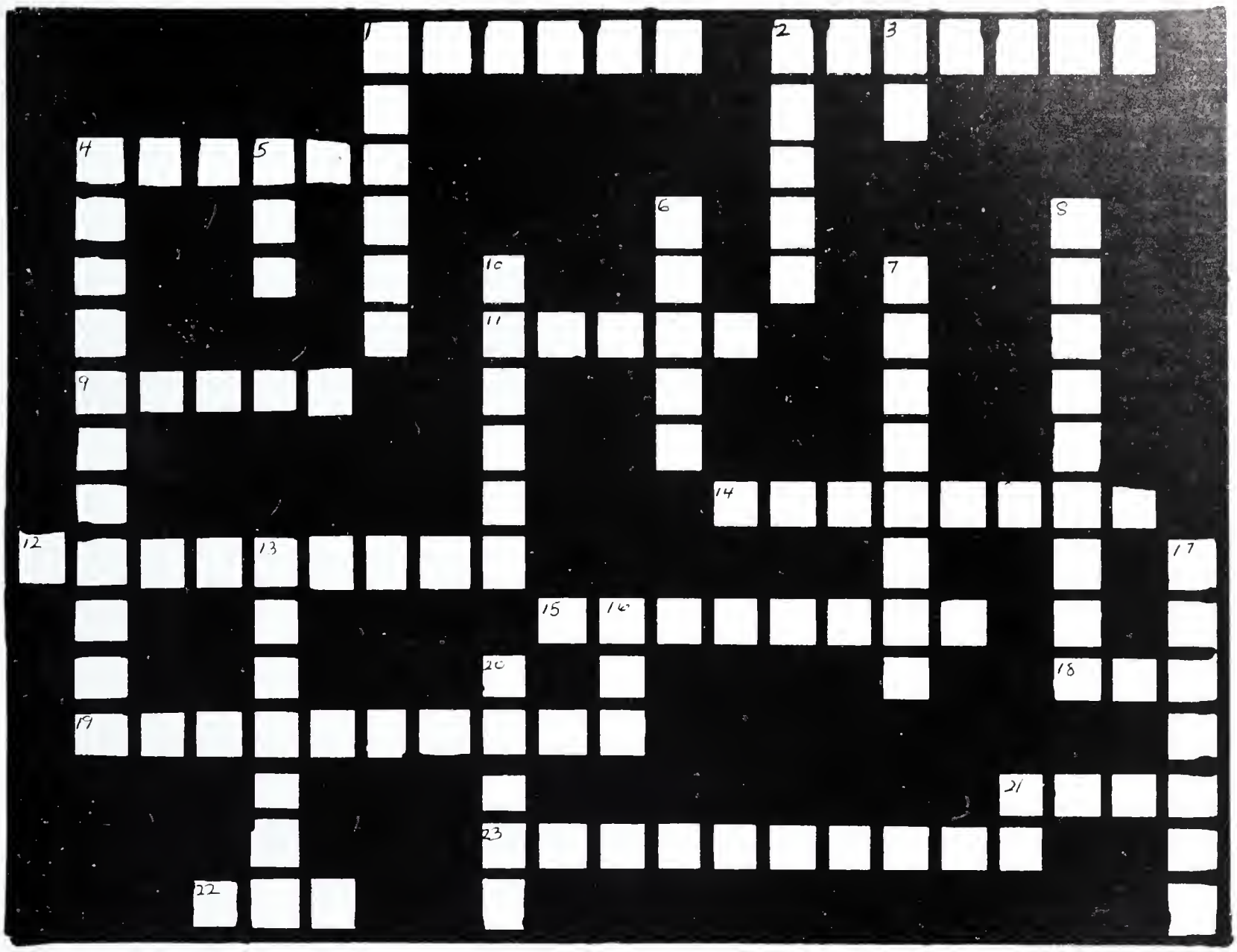
8. *The multiple "pinpoint" marks are indicative of:*
a) Amateur attempts at tattooing
b) Sadistic behavior
c) "Hospitalitis" – with numerous admissions leading to numerous blood tests
d) Drug addiction
e) All of the above

9. *In the full-blown clinical picture the following characteristics are present:*
a) Various psychiatric signs and symptoms
b) Abdominal pain
c) Neurological signs and symptoms
d) All of the above
e) None of the above

10. *It is likely that Alpha-Amino-Levulinic Acid will be found in:*
a) Gastric secretions
b) No body fluid
c) The urine
d) Samples of sweat
e) None of the above

11. *Alpha Amino-Levulinic-Acid is a precursor of:*
a) Porphobilinogen
b) Phenylpyruvic acid
c) Galactose
d) Phenylalanine
e) None of the above

12. *If a patient has porphobilinogen in the urine, it confirms the diagnosis of acute intermittent porphyria. Another laboratory tool used to make the diagnosis even more accurate is a (an):*
a) Ophthalmoscope
b) Spectroscope
c) Otoscope
d) Microscope
e) None of the above



ACROSS

1. Lack of interest.
2. Acute psychosis and homosexual panic are often causes of this.
4. This is altered in depression.
9. A social dictum internalized.
11. An unrecognized feeling in depression.
12. This is altered in toxic, organic and psychotic states.
14. A side-effect of phenothiazines.
15. A major tranquilizer.
18. Slang for backtalk.
19. The major feature of mania.
21. An emotion.
22. A drug capable of producing a toxic psychosis.
23. A side-effect of phenothiazines.

DOWN

1. Childhood schizophrenia.
2. Medical slang for psychotic
3. The meat in the Freudian sandwich.
4. A feature of schizophrenia.
5. An example of somatic therapy.
6. A source of the unconscious.
7. An anti-Parkinsonian drug.
8. A major tranquilizer.
10. The most commonly used drug.
13. This man's mother started it all.
16. Young teenage girls often get depressed and don't do this.
17. An unconscious defense mechanism.
20. La indifference.
21. An expression of derision.

MINIMAL BRAIN DYSFUNCTION

Continued from page 44

process is for improvement with age, with some studies reporting all but a minority of children having lost this symptom by late adolescence. The other cognitive problems have been shown to remain and doubtlessly continue to serve as a nidus of inadequate feeling, generalized frustration and despair, throughout adulthood. Behavioral problems remain, being manifest by sociopathies or psychiatric problems. Other studies have implicated low IQ values as carrying the brunt of the prognostic index[7]. The composite picture seems to be one of hyperactivity generally decreasing into adolescence and early adulthood, but that the cognitive maladjustments and behavior problems, old ones and new ones, secondary to the continuing problems or development of new conflicts, seems to continue unabated.

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AN INTRODUCTION . . .

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psychotherapy in their own offices and that the skills involved can be mastered with ease by those who are concerned and interested. It is not a book about theory; it is a book about the practical aspects of doing supportive psychotherapy. It has an excellent bibliography and is written by Pietro Castelnouvo-Tedesco (Little, Brown and Company 1965).

You should read a long book called *The Person: His Development Throughout The Life Cycle*, by Theodore Lidz. This beautifully written text is especially designed to give students of medicine and psychiatry a detailed and comprehensive introduction to individual man in the process of his development from the time of conception to the time of death. It, too, has an excellent bibliography and concludes with a chapter on the therapeutic relationship between physician and patient.

Both of these books have been of great personal interest to me and of great use in the preparation of this paper.

For those of you who wish to pursue the subject of psychotherapy further, Lewis Wolberg has written a tremendously detailed two volume text called *The Technique of Psychotherapy*. It is an excellent resource book, discussing the types and schools of psychotherapy in considerable detail, elucidating the ins and outs of the many specialized and specific techniques of psychotherapy, and presenting whole chapters on issues related to psychotherapy. As an example of the latter, the chapter, entitled "Is Psychotherapy Effective?", reviews the world literature and discusses the research problems involved in assessing therapeutic results.

Grand Round Quiz — Answers

I.	II.	III.	IV.	V.
(1) E.	(1) C.	(1) A.	(1) A.	(1) E.
(2) B.	(2) A.	(2) E.	(2) B.	(2) C.
(3) E.	(3) E.	(3) D.	(3) B.	(3) B.
(4) B.	(4) A.	(4) C.	(4) A.	(4) A.
(5) D.	(5) A.	(5) C.	(5) C.	(5) A.
(6) A.	(6) A.		(6) E.	(6) B.
(7) B.	(7) A.		(7) D.	(7) C.
(8) A.	(8) C.		(8) B.	(8) D.
(9) D.	(9) B.		(9) D.	(9) D.
	(10) E.		(10) D.	(10) C.
	(11) E.			(11) A.
	(12) A.			(12) B.

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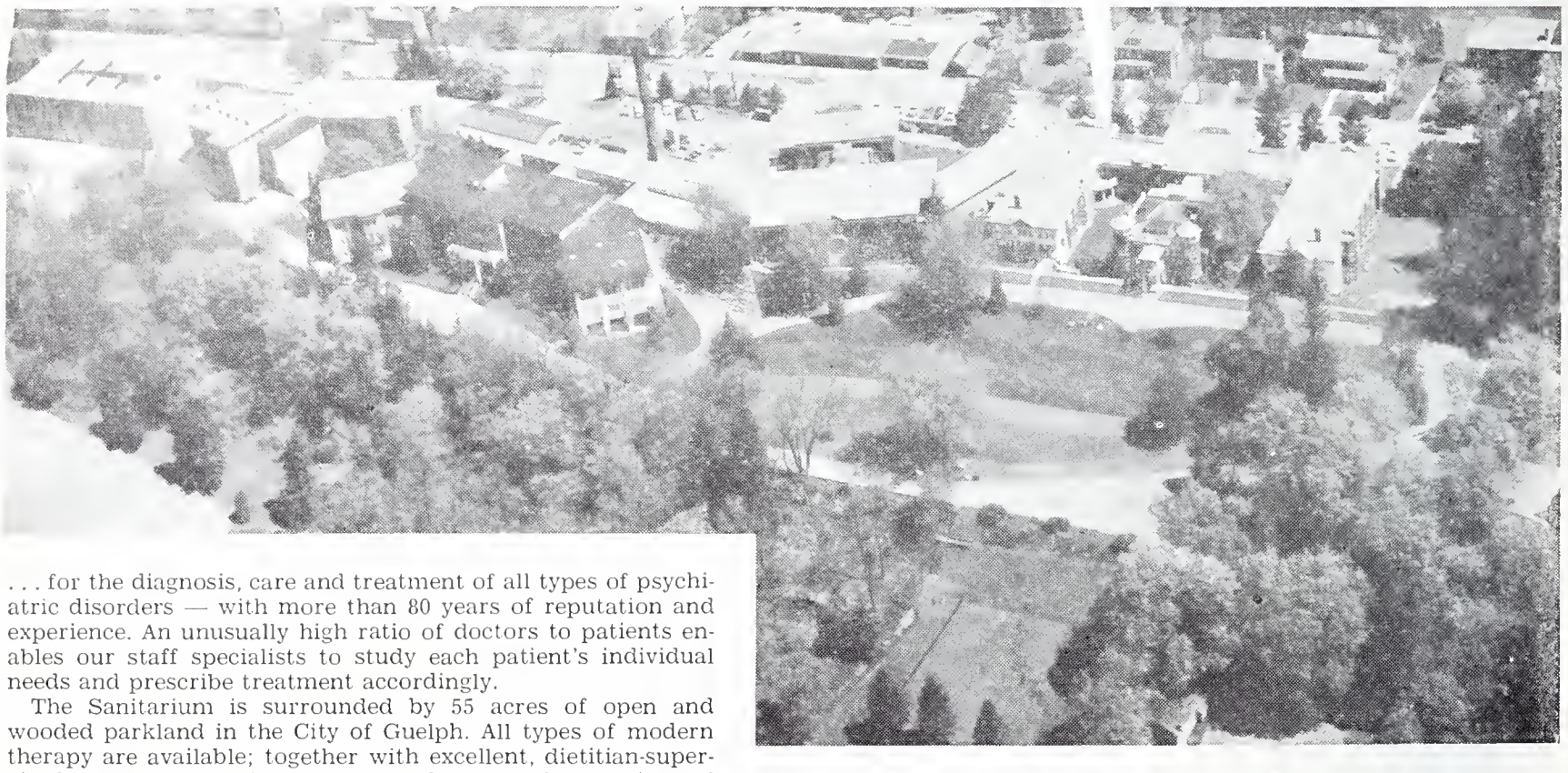

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